Statement of Greg Jones
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before the
Subcommittee on Railroads, Pipelines and Hazardous Materials
Committee on Transportation and Infrastructure
United States House of Representatives

regarding
The Safety of Hazardous Liquid Pipelines (Part 2): Integrity Management

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Chairwoman Brown, Ranking Member Shuster, and Members of the Subcommittee, thank you for the opportunity to appear here today to discuss Alyeska Pipeline Service Company's integrity management program. I am Greg Jones, Senior Vice President of the Technical Support Division for Alyeska Pipeline Service Company. My division includes Engineering; Health, Safety and Environmental Quality; Projects & Project Controls; and Security. I have worked for Alyeska for thirteen years. Before joining Alyeska, I served for twenty years as an officer in the U.S. Coast Guard.

I am here representing the 1600 people who operate and maintain the 800-mile Trans-Alaska Pipeline System, or TAPS, transporting crude oil from Alaska's North Slope to Valdez, where it is shipped to the West Coast in the Lower 48 states. Today, TAPS carries about 14 percent of the nation's domestic oil

production. Since startup in June 1977, we have transported more than 16 billion barrels of crude oil. At peak production, we transported 2.1 million barrels per day. However, production from existing development on the North Slope has been declining by approximately 6 percent per year, so we currently transport approximately 650,000 barrels per day on average.

Safety and integrity of the pipeline are core values at Alyeska, and a top priority for every employee. Over the past decade we have continually improved our safety and environmental performance, with 2009 being our best year on record. We recently celebrated one year and more than five (5) million working hours without any days away from work due to an injury. We have been awarded the API Pipeline Environmental Performance Award six times in the last decade, and received the Distinguished Operator Award for 2008. Although we are proud of our progress, we know that we have to perform well every single day. Regrettably, we did have a significant incident recently, which I will discuss in a moment.

Integrity Management Program

We are here today regarding the integrity management regulations that govern liquid pipelines. We have found the current pipeline safety regulations rigorous, comprehensive and appropriate. Federal regulations require Alyeska to have a comprehensive corrosion control program. Alyeska's corrosion

control program is extensive, and is based upon the federal Department of Transportation Pipeline and Hazardous Materials Safety Administration, or PHMSA. Our integrity management program is also closely monitored by the Joint Pipeline Office. The JPO is a unique consortium of 11 federal and state agencies that provides oversight of TAPS. Annually we provide the JPO with a corrosion assessment and also six additional reports on pipeline integrity. These are representative of the amount of oversight on TAPS.

We operate our integrity management program through a comprehensive documented plan and through written program procedures. The plan provides for baseline and continuous re-assessment of our pipeline using inline inspection, a review of integrity assessment results, risk assessments, preventive and mitigation measures, a continual process for data integration, and the development and review of program performance metrics. Any shortfalls in this area are dealt with promptly.

Our comprehensive Integrity Management Program is subject to inspections by PHMSA as part of our regulatory program, which most recently occurred in August 2009. The inspection team's written exit summary included the following statement:

> The Alyeska Integrity Management Program document (IM-244) is well organized and addresses the important

> management system characteristics . . . that are required for a successful program.

Alyeska's extensive integrity management program is focused on maintaining the integrity of the pipeline and protecting public safety and the environment. This program takes a system-wide approach, using activities designed to monitor and maintain the integrity of all facilities on TAPS. While Alyeska implements and complies with the safety standards set by the federal Office of Pipeline Safety, we also have internal procedures that exceed these requirements in many respects. I will share examples shortly.

An operating pipeline is monitored in a variety of ways. Alyeska's employees routinely visually inspect the pipeline and right-of-way. We conduct overflights along the pipeline Right of Way at least once weekly, and often more frequently, looking for signs of unusual activity or any environmental changes that might indicate a developing issue. We inspect valves and maintain our pump stations. We conduct internal inspections using special detection equipment known as "smart pigs" to monitor the pipeline for corrosion. These devices can take readings of the pipeline and provide data that alerts us if the pipe has moved, or if its wall thickness has changed.

We run these smart pigs through the line every three (3) years. This is an example where we exceed regulatory standards, which require pig runs every five (5) years. We analyze the pig run data and from this, our engineers make recommendations about what sections of the pipeline should be physically looked at for additional validation and any required repair. By using the data to decide what integrity investigations need to occur, we're ensuring that the parts of TAPS that need the most attention receive it. We investigate sections of the pipeline, above and below ground, to determine the significance of anomalies, including corrosion. Based upon this assessment, the appropriate corrective actions are taken.

We are required to investigate pipeline segments that could affect High Consequence Areas when our data tells us there is a wall loss of 50 percent or greater. We actually go by a more rigorous investigation standard, and will investigate when we detect a wall loss of 40 percent.

We also run cleaning pigs through the entire length of the pipeline every seven to fourteen days. These pigs are designed to push wax, water and sediment down the line for removal. As our throughput has declined, and fluid temperature has also declined, cleaning pigs have become an even more important integrity tool for us, as they remove wax that may drop out of the crude oil at a reduced velocity.

In addition to pigging and integrity investigations, our corrosion control program includes numerous other elements.
A cathodic protection system passively and actively protects the below ground pipe from external corrosion. The passive system uses sacrificial galvanic (zinc and magnesium) anodes which preferentially corrode, thus protecting the pipeline from corrosion (similar to the zinc anodes in home water tanks). The active system applies electrical current to the pipeline to prevent corrosion. A total of approximately 1,700 cathodic protection test stations are placed along the pipeline to provide a way to measure the effectiveness of the cathodic protection system. Cathodic protection monitoring, including annual test station readings and close interval surveys, are performed on one-third of the pipeline each year. Areas not meeting the cathodic protection criteria are either mitigated or electrically adjusted.

We conduct a similar inspection program for the breakout tanks that are located at the pump stations. These tanks are inspected for corrosion, both visually and by using technology such as ultrasound. These tanks also have cathodic protection for the underside of the tank bottoms.

Other program elements include our valve maintenance program; river and floodplain maintenance and control; and regular integrity investigations and repairs on our 150-mile fuel gas line,

which delivers fuel gas from the North Slope producers to Pump Stations 1, 3, and 4. We also have a comprehensive earthquake preparedness program, a leak detection system, and an overpressure protection system. All of these systems are reviewed and approved by the Joint Pipeline Office or associated agencies, such as PHMSA or the Alaska Department of Environmental Conservation.

We continue to improve our systems. Beginning in 2008, we initiated substantial capital improvement projects to increase our cathodic protection levels, including:

- the installation of new impressed current anode beds at various locations line wide,
- the installation of deep well anodes, upgrading existing electric generators and rectifiers line wide,
- removal of electrically-shorted casings at various road crossings,
- installation of a line-wide remote monitoring and control system for cathodic protection rectifiers, and,
- addition of cathodic protection test stations on the fuel gas line between Pump Station 1 and Pump Station 4.

This work will be completed in 2011. We have plans to continue capital improvement projects in the coming years.

I want to stress that our program is primarily focused on prevention, protecting public safety, caring for the environment and business continuity.

Should TAPS experience a pipeline discharge, we have worked diligently to be prepared to respond to an incident. We have an approved oil discharge prevention and contingency plan that guides our response efforts. The plan is reviewed and approved by four regulatory agencies: the Alaska Department of Environmental Conservation, the U.S. Environmental Protection Agency, the U.S. Department of Transportation, and the U.S. Bureau of Land Management. We exercise our personnel and equipment on a regular basis through company and agency-directed drills, and under the scrutiny of regulators. While it is our goal to avoid an oil discharge, we are prepared for an incident and can respond effectively and in a timely manner.

Our spill response preparedness was demonstrated on May 25th of this year, when, during a scheduled shutdown of the system, a breakout tank overflowed, resulting in a spill to the secondary containment that surrounds the tank. There were no injuries and the spill did not escape into the environment, but approximately 4,500 barrels of crude oil were captured within the secondary containment system. Sixty-nine (69) trained oil spill response personnel responded to the site, and a 30-member incident management team was activated. Many others in the Company

added their expertise. Our contingency plan was followed, and as a result, there were no injuries and there was no damage to the environment. While the response went as required, we clearly find the incident unacceptable. We have done a full investigation into the event, and are now working to implement both system and process recommendations to ensure that it will not happen again.

As I've outlined, our Integrity Management Program is a comprehensive system that draws on a number of methods that we believe best protect Alaska's environment and keep the pipeline operating safely and reliably. In Alyeska's 33 years of operations, we've never experienced a leak on the mainline pipe due to corrosion. We credit the skills and experience of our people, the current regulatory framework, the various tools and strategies we use to protect the pipeline, and our aggressive attention to investigation and intervening whenever needed in order to ensure the integrity of TAPS. We're proud of our integrity management program that we use to safely operate and maintain the Trans Alaska Pipeline System.

I'll be happy to answer any questions.